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September 29, 2006

Mr. Ross Fefercorn  
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Minneapolis, Minnesota 55408

**RE: SUMMARY OF ENVIRONMENTAL  
INVESTIGATIONS AND CORRECTIVE ACTIONS  
GRAIN BELT AREA DEVELOPMENT  
MINNEAPOLIS, MINNESOTA**

Dear Mr. Fefercorn:

R.J. Rykken Consulting, Inc. (RJR) has prepared this letter to document environmental investigations at the proposed Grain Belt Area Development in Minneapolis, Minnesota (the Site). RJR previously prepared a Phase I Environmental Site Assessment Report (Phase I ESA Report), dated October 10, 2003. Recognized environmental conditions (RECs) and other potential environmental concerns identified in the Phase I ESA Report are shown in *italics* and are followed by discussions of additional work or development plans that have addressed the RECs or environmental concerns.

**Phase I ESA Report Recognized Environmental Conditions (RECs)**

The Phase I ESA Report identified the following recognized environmental condition (REC) associated with the Site:

- *Fire department records indicate that two 4,000-gallon gasoline USTs, and possibly one 550-gallon gasoline UST were removed from the Site (1215 Marshall Street NE) in 1984. The location of these tanks could not be determined from the records. The City of Minneapolis Inspection records indicate that building permits for oil burners (1947 and 1976) and a stoker (1936) were previously issued for 1215 and 1221 Marshall Street NE. During the Site visit, possible vent pipes were observed adjacent to the residences located at 132 and 134 13<sup>th</sup> Avenue NE. These pipes could be associated with former or existing fuel tanks. It is possible that fuel storage tanks at the Site could have resulted in subsurface contamination beneath the Site.*

The City of Minneapolis Department of Community Planning and Economic Development (CPED) demolished the residential structures located at 132 and 134 13th Avenue NE in 2005. Mr. Mike Williams of CPED indicated that no petroleum storage tanks or evidence of petroleum releases were identified during the demolition of these structures.

The potential underground storage tanks located at 1215 Marshall Street NE are no longer part of the Site. Soil borings advanced by RJR and Stork Twin City Testing Corporation (Stork TCT) for geotechnical and environmental assessments in July 2005 did not identify evidence of petroleum contamination. Three of the soil borings, B1, B2 and B3, were located adjacent to the 1215 Marshall property (see Figure 1). No organic vapors were detected by RJR in any of the soil samples, which were collected continuously from these borings and monitored using a photoionization detector (PID). Several other soil borings, completed to address the petroleum release (MPCA Leak ID# 3719) on the south side of the 1215 Marshall Property are discussed below.

- *A petroleum release (#3719) was reported at the Site (1215 Marshall Street NE) in January 1991. The release was discovered during the removal of three 30,000-gallon fuel oil USTs. The tanks were installed at the Site in 1947, and were located along the southern property boundary, south of the existing office building. The MCDA conducted soil and ground water corrective actions, and the MPCA closed the file in September 1991. This release is considered a historical recognized environmental condition (HREC).*

This petroleum release (MPCA Leak ID# 3719) was located on the south side of the 1215 Marshall Street NE (Office Building). Documents associated with this release are included in Appendix H of the Phase I ESA Report. The Minneapolis Community Development Agency (MCDA) contracted with Bay West Inc. to remove the USTs, excavate and dispose of approximately 3,000 cubic yards of petroleum contaminated soil, and perform a petroleum release investigation. The Bay West investigation included six soil borings and laboratory analyses of seven soil samples.

In 1988, prior to the removal of the USTs, the MCDA contracted with Braun Engineering Testing (Braun) to perform a subsurface environmental assessment at the Site and surrounding properties. Boring logs and a figure showing boring locations are included in Attachment A. No evidence of petroleum contamination was detected in the two soil borings (ST-2 and ST-3) advanced adjacent to the Office Building USTs.

This release was previously considered an environmental issue due to its location adjacent to the Office Building and the potential for soil contamination on the Office property. Because the Office Building is no longer part of the Site, and due to the limited extent and its location (approximately 100 feet down-gradient of the Site), this petroleum release is no longer considered a potential source of contamination at the Site.

#### **Other environmental issues identified in Phase I ESA Report**

In addition the above REC and HREC discussed above, other environmental issues included:

- *A petroleum release (#6688) was reported at the former Chose Service Station (currently P & N Auto Sales and Service) in 1993. This facility is located northwest of the Site, across 13<sup>th</sup> Avenue NE. The MPCA closed the leak file in 1995.*

This petroleum release (MPCA Leak ID# 6688) is located in a suspected side-gradient location to the Site. The lack of petroleum impacts in soil samples collected from Braun soil boring ST-1 or Stork TCT soil boring B10 indicates that this release has not resulted in significant soil contamination at the Site.

- *According to an archeological investigation at the Site, subsurface remnants of the original Orth's Brewery are still present beneath the western portion of the Site. The remnants include limestone footings, walls and sub-floors, as well as glass, brick, wood and mortar debris. In addition, several residences previously occupied the eastern portion of the Site. It is possible that concrete foundations and/or other building materials may be present in these areas.*

RJR performed five test pits (TP-1 through TP-5) in July 2005 to assess the locations of the former residences. The locations of the test pits are shown on Figure 1 and the results are summarized in the Technical Memorandum dated July 22, 2005 (Attachment B). The demolition debris associated with former residences was subsequently removed by CPED during Site demolition activities. Due to the re-grading of the Site (surface soils were used to slope the former warehouse basement and retaining walls) we are confident that all the demolition debris was uncovered and removed from the Site.

The Sheridan Development Company, LLC has coordinated considerable additional archeological investigation of the former Orth Brewery. No potential environmental concerns associated with the former Brewery have been identified.

- *An asbestos survey conducted in 1999, detected asbestos-containing insulation in the basement of the existing office building. The survey did not assess the asbestos content of materials in other portions of the building. Suspect ACM (insulation near a boiler) was also observed in the basement of the existing warehouse/garage during the Site visit.*

While additional work was performed to assess hazardous materials within the Office Building, this structure is no longer part of the Site.

- *Based on the date of construction, painted surfaces of the existing Site buildings could potentially contain lead. No lead based paint testing was conducted by RJR.*

CPED coordinated the inspection, testing, demolition and disposal of all Site buildings. There are no potential hazardous materials remaining at the Site.

- *An industrial water supply well (MDH Unique #20067) is located in an enclosure attached to the northwest corner of the warehouse/garage at the Site. The well was drilled in 1938 to a total depth of 700 feet. The 14-inch diameter well is cased to a depth of 168 feet, and utilizes water from multiple bedrock aquifers.*

This well was abandoned in January 2006; the sealing record is included as Attachment C.

Should you have any questions regarding this correspondence please contact me at (952) 447-6505.

Sincerely,

R.J.RYKKEN CONSULTING, INC.



Robert J. Rykken, P.E., P.G.  
Principal Engineer

**Attachments:**

- Figure 1 – Test Pit and Soil Boring Location Diagram
- Attachment A – Braun Subsurface Assessment Figure and Boring Logs
- Attachment B – RJR Technical Memorandum
- Attachment C – Well Sealing Record

Phase I Environmental Assessment  
**Phase I of the Grain Belt Brewery Area**  
SE Corner of Marshall Street NE and 13<sup>th</sup> Avenue NE  
Minneapolis, Minnesota

Prepared for:

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Prepared by:

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RJR Project Number:  
03-015

October 10, 2003

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**Appendix A – Plat Map**

**Appendix B – Phase I Questionnaires**

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**Appendix D – Aerial Photographs**

**Appendix E – City Directories**

**Appendix F – City of Minneapolis File Information**

**Appendix G – Site Reconnaissance Photographs**

**Appendix H – Regulatory Agency Information**

*\* EDR Federal and State Database Report*

*Minnesota Pollution Control Agency Leak File Information*

**Appendix I – Resumes**

\* Report provided on disc

## 1.0 Executive Summary

This Phase I Environmental Assessment (EA) was prepared at the request of Mr. Ross Fefercorn for Phase I of the Grain Belt Area Development located in Minneapolis, Minnesota (the Site). The Site currently contains one vacant warehouse/garage (1221 Marshall Street NE), one vacant office building (1215 Marshall Street NE) and three residences located at 130, 132 and 134 13<sup>th</sup> Avenue NE. This EA was performed in accordance with ASTM E1527-00 Phase I Environmental Site Assessment Process Guidelines.

The Site is comprised of 3 separate properties located in a mixed land use area of Minneapolis, Minnesota. The warehouse/garage was constructed in 1950; the office building was constructed in 1892; and, the residences were constructed in the early 1900s. Based on historical information, the western portion of the Site (existing parking lot) was occupied by a brewery from the mid-1800s to the early 1900s. Several residences occupied the eastern portion of the Site from at least the late 1800s to the mid-1900s; the eastern portion of the Site is currently vacant. Based on the research conducted for this Phase I EA, the following recognized environmental conditions (RECs) were identified at the Site:

- Fire department records indicate that two 4,000-gallon gasoline USTs, and possibly one 550-gallon gasoline UST were removed from the Site (1215 Marshall Street NE) in 1984. The location of these tanks could not be determined from the records. The City of Minneapolis Inspection records indicate that building permits for oil burners (1947 and 1976) and a stoker (1936) were previously issued for 1215 and 1221 Marshall Street NE. During the Site visit, possible vent pipes were observed adjacent to the residences located at 132 and 134 13<sup>th</sup> Avenue NE. These pipes could be associated with former or existing fuel tanks. It is possible that fuel storage tanks at the Site could have resulted in subsurface contamination beneath the Site.

Issues noted for the Site that are not RECs as defined by the ASTM standard are as follows:

- A petroleum release (#3719) was reported at the Site (1215 Marshall Street NE) in January 1991. The release was discovered during the removal of three 30,000-gallon fuel oil USTs. The tanks were installed at the Site in 1947, and were located along the southern property boundary, south of the existing office building. The MCDA conducted soil and ground water corrective actions, and the MPCA closed the file in September 1991. This release is considered a historical recognized environmental condition (HREC).
- A petroleum release (#6688) was reported at the former Chose Service Station (currently P & N Auto Sales and Service) in 1993. This facility is located northwest of the Site, across 13<sup>th</sup> Avenue NE. The MPCA closed the leak file in 1995.
- According to an archeological investigation at the Site, subsurface remnants of the original Orth's Brewery are still present beneath the western portion of the Site. The remnants include limestone footings, walls and sub-floors, as well as glass, brick, wood and mortar debris. In addition, several residences previously occupied the



eastern portion of the Site. It is possible that concrete foundations and/or other building materials may be present in these areas.

- An asbestos survey conducted in 1999, detected asbestos-containing insulation in the basement of the existing office building. The survey did not assess the asbestos content of materials in other portions of the building. Suspect ACM (insulation near a boiler) was also observed in the basement of the existing warehouse/garage during the Site visit.
- Based on the date of construction, painted surfaces of the existing Site buildings could potentially contain lead. No lead based paint testing was conducted by RJR.
- An industrial water supply well (MDH Unique #20067) is located in an enclosure attached to the northwest corner of the warehouse/garage at the Site. The well was drilled in 1938 to a total depth of 700 feet. The 14-inch diameter well is cased to a depth of 168 feet, and utilizes water from multiple bedrock aquifers.

Based on the conclusions in this Phase I EA report, RJR recommends the following:

- A subsurface investigation would be required if it were necessary to assess whether soil or ground water beneath the Site had been impacted from past Site uses and whether corrective actions would be necessary during development. A subsurface investigation at the Site should assess potential subsurface contamination from former fuel tanks and potential demolition and foundation debris from the former structures.
- Additional sampling would be required to further assess the asbestos content of building materials at the Site. The asbestos content of suspect ACMs that were not previously sampled should be confirmed or denied by laboratory analysis prior to renovation, remodeling or demolition activities in accordance with regulatory requirements. This work reportedly will be performed by the MCDA prior to the demolition of the warehouse and residential buildings. Depending upon its condition, ACM within the Office Building can be managed in place with an Operations and Maintenance (O & M) Plan. If removal of ACM is necessary, it should be performed by a licensed abatement contractor in accordance with state and federal regulations, prior to future renovation and/or demolition of the Site buildings.
- The lead content of painted surfaces in the Site buildings should be assessed prior to renovation or demolition activities, in accordance with regulatory requirements. This work reportedly will be performed by the MCDA prior to the demolition of the warehouse and residential buildings.
- If the proposed Site development does not incorporate the use of the existing water supply well (MDH Unique #20067), it should be abandoned by a licensed well driller, in accordance with MDH guidelines.

## **2.0 Project Authorization and Purpose**

R.J.Rykken Consulting, Inc. (RJR) has performed a Phase I Environmental Assessment (EA) of Phase I of the Grain Belt Area Development located on the southeast corner of 13<sup>th</sup> Avenue NE and Marshall Street NE, hereafter referred to as the Site. The Site is comprised of 3 properties located in Minneapolis, Hennepin County, Minnesota. The Site property addresses include 1215 and 1221 Marshall Street NE; and 130, 132 and 134 13<sup>th</sup> Avenue NE.

This Phase I EA was authorized by Mr. Ross Fefercorn of Sheridan Development Company. The EA was conducted to assess current and historical property conditions, and the potential for environmental impacts to the proposed redevelopment of the Site. This Phase I EA was performed in accordance with ASTM E1527-00 "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process".

The purpose of this EA is to attempt to identify any recognized environmental conditions (REC) at the Site to establish the "innocent landowner defense" to CERCLA liability and to minimize general business environmental risks. As defined by the ASTM standard, a REC constitutes the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property.

The term REC is not intended to include de minimis conditions or historical recognized environmental conditions (HREC) that generally do not present a material risk of harm to public health or the environment, and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. A historical recognized environmental condition is an environmental condition which in the past would have been considered a REC, but which may or may not currently be considered a REC.

### **2.1 Scope of Services**

In accordance with the ASTM standard, this Phase I EA included the following services:

- Researching reasonably ascertainable and practically reviewable historical records, including but not limited to: historical maps, geological information, aerial photographs, city directories, property tax and permit files, well records and federal and state regulatory database information.
- Conducting a Site visit incorporating visual observations and photographic documentation of interior and exterior Site conditions, along with exterior conditions at adjacent properties.
- Interviewing pertinent and available Site personnel including but not limited to the client, the Site owner and/or manager, maintenance personnel and occupants; and, interviewing pertinent and available local government officials.

- Preparing this Phase I EA Report documenting the findings of the historical records research, the Site visit and interviews, and providing conclusions and recommendations with respect to recognized environmental conditions and other potential environmental concerns.

## **2.2 Exceptions and Limitations**

There were no exceptions to, or deletions from the ASTM standard. This EA relies on information provided by various environmental agencies and subcontracted information providers. RJR and its representatives make no representation or warranty as to the accuracy or completeness of any source of information used in this report that has been obtained from other firms or agencies. RJR did not perform an environmental audit to determine compliance of past or existing business operations with respect to federal, state, or local laws or regulations.

### 3.0 Site Location and Description

The Site is comprised of a vacant warehouse/garage, a vacant office building and residences in a mixed land use area of Minneapolis, Minnesota. The Site property may be redeveloped to include retail and housing structures. In addition, the existing office building is scheduled to be renovated.

The Site is located in the SE ¼ of the NE ¼ of Section 15, Township 29 North, Range 24 West, and is situated at 44° 59' 59" North Latitude, 93° 16' 09" West Longitude. Figure 1 illustrates the approximate boundaries of the Site properties on the most recent topographic map of the area. An additional diagram showing the Site property, existing and former structures, area streets and other pertinent information is included as Figure 2. The Site includes the following legal descriptions:

- **1215-1221 Marshall Street NE:** Orth's Addition to St. Anthony, that part of Block 1 Orth's Addition to the Town of St. Anthony and of Block 11 of Orth and Hectman's Addition to the City of St. Anthony and of adjacent part of vacated 12<sup>th</sup> Avenue NE described as beginning at intersection of southwesterly line of said Block 1 with northwesterly line of southeasterly 130 feet thereof, then northeasterly along said northwesterly line and its northeasterly extension to west line of Main Street NE, then north to most northerly corner of Lot 3 of said Block 11, then southwesterly to most southerly corner of northeasterly 2 feet of Lot 9 of said Block 11, then northwesterly to most westerly corner thereof, then southwesterly to most westerly corner of said Block 1, then southeasterly to beginning.
- **130 13<sup>th</sup> Avenue NE:** Orth and Hectman's Addition to St. Anthony, Block 11, southwesterly ½ of Lot 10 and northeasterly 2 feet of Lot 9.
- **132 - 134 13<sup>th</sup> Avenue NE:** Orth and Hectman's Addition to St. Anthony, Block 11, Lot 11 and northeasterly ½ of Lot 10.

The Plat Map depicting the Site boundaries is included in Appendix A.

## **4.0 Geologic and Hydrogeologic Setting**

The geologic and hydrogeologic characteristics of a property can influence the migration of spills and releases of hazardous substances and petroleum products in the subsurface environment. The hydrogeologic characteristics of a geographic area can influence the likelihood of a REC resulting from the migration of contaminants from off-Site sources.

The Hennepin County Geologic Atlas, topographic maps and area well logs were reviewed for information concerning geologic, hydrogeologic, and topographic characteristics in the vicinity of the Site. A portion of the Minneapolis South, Minnesota Quadrangle, 7.5 Minute Series Topographic Map, which shows the location of the Site, is included as Figure 1. Geological reference information is included in Section 11.0 of this report.

### **4.1 Topography**

The area in the vicinity of the Site is generally level. According to the topographic map, the ground surface elevation at the Site varies between 810 and 820 feet above mean sea level (msl). The ground surface elevation at the Site sharply decreases to the southwest of a retaining wall. The Mississippi River is located approximately ¼ mile to the west of the Site. The elevation of the river nearest to the Site is approximately 800 feet msl.

### **4.2 Surficial Geology and Hydrogeology**

Based on the geologic atlas, surficial geology in the Site area consists of native Middle and Terrace glacial deposits consisting of sand, gravelly sand and loamy sand, overlain by thin deposits of silt, loam or organic sediments. Artificial fill and boulder lags may be common beneath the Site. According to boring logs from an investigation in 1988, the soil beneath the Site consists of a mixture of sand, silty sand and lean clay. In general, more fine-grained sediments were encountered in the deeper soil samples collected from the borings. The borings were advanced to depths ranging from 25 to 30 feet.

Ground water was encountered in the borings at depths ranging from 18 to 28 feet. The ground water flow beneath the Site would be highly dependent upon the ground surface topography, subsurface permeability and the bedrock elevation. In general, ground water in unconsolidated sediments beneath the Site would be expected to flow to the west or southwest, toward the Mississippi River.

### **4.3 Bedrock Geology and Hydrogeology**

Based on the geological atlas and well logs, the uppermost bedrock unit beneath the Site is the St. Peter Formation. The upper portion of the St. Peter Formation consists of fine to medium-grained, friable quartz sandstone; the lower portion consists of multicolored beds of mudstone, siltstone and shale with interbedded coarse sandstone. The log for MDH Unique Well #200267 (on-Site) indicates that the depth to the uppermost bedrock (St. Peter) beneath the Site is 82 feet. The Prairie Du Chien Group and the Jordan sandstone underlie the St. Peter Formation. These aquifers are utilized for local domestic and commercial water supply. According to the atlas, the ground water flow direction within the uppermost bedrock aquifers is to the southeast.

## **5.0 Historical Review**

The historical research conducted by RJR included Site interviews and a review of historical maps, aerial photographs, city directories, city files, well logs and previous reports for the Site. Based on the historical review the Site has been comprised of a mixture of industrial, commercial, and residential properties. Past Site uses of concern include a brewery. A summary of the historical research conducted is presented in the following sections.

### **5.1 Interviews**

Sheridan Development Company representative, Mr. Ross Fefercorn, completed questionnaires regarding the Site. Mr. Fefercorn indicated that he had no knowledge of the existence of any underground storage tanks (USTs), environmental liens, violations or litigation, or other documents or proceedings for the Site as listed in section 9.8 of the ASTM standard. Copies of the questionnaires Mr. Fefercorn completed regarding the Site are included in Appendix B.

RJR also contacted MCDA representative, Mr. Larry Heinz regarding the Site. Mr. Heinz indicated in a telephone conversation that the MCDA acquired the property from Mr. Irwin Jacobs sometime around 1990. The MCDA used the office building until the mid-90s, at which time they leased it to the Minneapolis School Board. The office building has been vacant for the past few years.

Mr. Heinz indicated that soil and ground water corrective actions were conducted following the removal of the fuel oil tanks in 1991. Mr. Heinz indicated that an asbestos survey was conducted in the office building in 1999, but does not believe that asbestos abatement has occurred.

Mr. Heinz indicated that Caswell, Inc. occupied the warehouse/garage building through a previous lease with Mr. Jacobs. Caswell, Inc. utilized the building for storage and repair operations associated with their firearm training business. Mr. Heinz indicated that the warehouse/garage has been vacant since Caswell left, approximately three years ago.

### **5.2 Historic Maps**

Beginning in the late nineteenth century, detailed maps for use by fire insurance companies and others were prepared for urban areas and the downtown areas of small towns. These maps indicate the location and/or construction materials of specific structures in developed areas. Chemical and petroleum storage tank locations were often noted on these maps, which were updated through the twentieth century. Atlases, which sometimes indicated the location of structures, were prepared for most developed and rural areas beginning in the 1800's.

Environmental Data Resources, Inc. (EDR) conducted a search of historic maps for the Site. Sanborn Fire Insurance Maps from 1885 to 1966 were identified for the Site and adjacent properties. A list of these maps is included in the Section 11.0 of this report, and copies of the maps are included in Appendix C. A summary of the map findings is presented below.

The 1885 map indicates that the western portion of the Site is occupied by the John Orth Brewing Company. The brewery includes several buildings, many of which are labeled “ice” or “beer”. Most of the descriptions on the map are illegible; however some of the building labels include “fermenting house”, “men’s sleeping rooms” “bottling house” and “boarding”. Some circular structures are depicted on the map near the main building complex. Nine dwellings are depicted on the eastern portion of the Site.

One of the icehouses, the bottling house and the boarding house are no longer depicted on the 1890 map. No other significant changes are evident on the 1890 map.

The 1912 map indicates that the western portion of the Site is owned by the Minneapolis Brewing Company. The main building complex is no longer depicted; however, an office building is present along the southern property border, and a general storage building is depicted adjacent to 13<sup>th</sup> Avenue NE. The Quaker Bottling Company owns an additional portion of the Site along 13th Avenue NE, but no structures are depicted in this area. No significant changes are evident on the eastern portion of the Site.

The existing warehouse/garage is depicted on the 1950 and 1952 maps. The general storage building is no longer depicted. The office building along the southern property border is still present. All but three of the residences have been removed from the eastern portion of the Site. The three remaining residences are located along 13<sup>th</sup> Avenue NE.

The 1966 map depicts three fuel oil underground storage tanks located off-Site, south of the office building. No other changes are evident on the 1966 map.

### **5.3 Aerial Photographs**

Aerial photographs reviewed for the Site were provided by EDR. The interpretation of aerial photographs is affected by the scale and quality of the photographs. Photographs were available for several years from 1937 through 1997. A list of the reviewed photographs is included in Section 11.0 of this report; copies of the photographs are included in Appendix D. A summary of the aerial photographs is presented below.

The 1937 aerial photograph indicates that the office building along the southern property border and a small garage building along 13<sup>th</sup> Avenue NE are present at the Site. The residences along 13<sup>th</sup> Avenue NE are not discernable. The eastern and western portions of the Site appear to be vacant.

The residences along 13<sup>th</sup> Avenue NE are evident on the 1945 aerial photograph. The western portion of the Site is occupied by a parking lot. No other changes are evident on the 1945 aerial photograph.

The small garage building has been replaced by the existing warehouse/garage on the 1957 aerial photograph. The eastern and western portions of the Site are occupied by parking lots. The office building and residences are still evident.

With the exception of the eastern portion of the property, which is vacant, the Site is largely unchanged on the aerial photographs from 1966 to 1997.

## 5.4 City Directories

City directories have been published for cities and towns since the late 1800s. Organized by address, the directory lists resident names or the name and type of business. City directories for approximate five-year intervals from 1944 through 1999 were reviewed and summarized by EDR. Addresses for the Site and adjacent properties were researched. A list of the directory sources is included in the Section 11.0 of this report. Copies of the EDR city directory summaries are included in Appendix E. A summary of the city directory findings is presented below.

The Site address 1215 Marshall Street NE was listed in the directories as Grain Belt Beer/Minneapolis Brewing Company and White Label Brewing Company from 1944 to 1973. The 1978 and 1983 directories list 1215 Marshall as Jacobs Enterprises/Federal Financial Corporation. 1215 Marshall Street NE is listed as Insty Prints in the 1988 directory, and MCDA in the 1993 directory. The address was not listed in the research source from 1999.

The other Site addresses (130 and 134 13<sup>th</sup> Avenue NE) were listed as “residence”, “apartments” or “no phone” from 1944 to 1999.

Listings for adjacent addresses from 1944 to 1999 were comprised of commercial or residential properties. The listing for 1301 Marshall Street NE included Chose Service Station from 1958 to 1993; this property is located north-northwest of the Site, across 13<sup>th</sup> Avenue NE. No other listings of concern were identified on adjacent properties.

## 5.5 City File Reviews

Historical Information Gatherers, Inc. (HIG) conducted a search of various City of Minneapolis files for information regarding the Site. No records for the Site addresses were identified in the City of Minneapolis Environmental Department files. Copies of pertinent building permit and tax assessor file information are provided in Appendix F. A summary of the findings is presented below.

1215 Marshall Street NE: Tax Assessor file information indicates that the owner and taxpayer is the Minneapolis Community Development Agency (MCDA). The existing warehouse at the Site, which was built in 1951, is listed as 1221 Marshall Street NE. The occupant of the 1221 warehouse is listed as Caswell Equipment Company. The office building at the Site was constructed in 1892; the occupant is listed as the MCDA.

The building permit cards include information for the Minneapolis Brewing Company property, which includes 1215 Marshall Street NE (the Site) and 1317-29 Ramsey Street NE (west of the Site). The permit line items do not indicate specific addresses, thus it cannot be determined whether much of the information pertains to the Site. Building permit records do indicate that the existing office building (44' x 72') was constructed in 1892, and an addition (44' x 100') was constructed in 1911. A 160' x 150' storage garage (existing warehouse) was also constructed at the Site in 1950. The file contains a permit for two oil burners at 1221 Marshall Street NE (1976). Installation records for a stoker (1936), and an oil burner (1947) are also contained in the permit file; the precise building location for these is unknown.



130 13<sup>th</sup> Avenue NE: Tax Assessor file information indicates the owner and taxpayer is Mr. Thomas Brama, and that the existing residence was constructed in 1900. Building permit file information indicates that a dwelling was constructed at this property sometime prior to 1905. A gas burner was installed at this property in 1967.

134 13<sup>th</sup> Avenue NE: Tax Assessor file information indicates the owner and taxpayer is Mr. Steven Sroka, and that the existing residence was constructed in 1900. The file also indicates that this property includes 132 13<sup>th</sup> Avenue NE. Permit records indicate that a dwelling was constructed at 134 13<sup>th</sup> Avenue NE in 1903; another dwelling was constructed at 132 13<sup>th</sup> Avenue NE sometime prior to 1920. Gas burners were installed at these properties in the mid-1950s.

## 5.6 Well Location Maps

The United States Geological Survey (USGS), the Public Water System (PWS) data of the Federal Reporting Data System (FRDS) and the Safe Drinking Water Information System (SDWIS), and the County Well Index (CWI) of the Minnesota Geological Survey (MGS) were reviewed by EDR. These sources provide information regarding private and public water supply wells and their locations.

One well was identified at the Site. The well {Minnesota Department of Health (MDH) Unique #20067} was drilled in 1938 to a total depth of 700 feet. The 14-inch diameter well is cased to a depth of 168 feet, and utilizes water from multiple bedrock aquifers including the Prairie Du Chien Group and the Jordan Sandstone. The well is listed as “industrial” and remains active.

## 5.7 Previous Reports

The following reports for the Site were provided to RJR for review:

- *Archeological Investigations of Orth's Addition (21HE0318), Block 1, Within the Minneapolis Brewing Company Historic District* – Hemisphere Field Services, Inc. (March 2001)
- *Asbestos Survey, Grain Belt Complex - Office Building Basement, 1215 Marshall Street NE* – EnecoTech Environmental Consultants (June 15, 1999)

The archeological investigation revealed that the Orth Brewery occupied the western portion of the Site as early as 1850. The remains of the original brewery complex were likely razed after a fire in 1893. The existing office building along the southern Site boundary was reportedly constructed by 1903; an addition to the office building was constructed by 1912. Excavation of test trenches revealed evidence of artifacts that included window glass, bottles, wood, bricks, mortar and other debris beneath the Site. The excavation also indicated that some of the original limestone footings, walls and sub-floors are still present.

The asbestos survey indicated that asbestos-containing pipe joint and pipe run insulation was detected in the basement of the existing office building. The survey did not assess the asbestos content of materials in other portions of the building.

## **6.0 Site Reconnaissance**

RJR representatives, Mr. Mark Perry and Mr. Bob Rykken, conducted a reconnaissance of the Site on August 28, 2003. MCDA representative, Mr. Dean Perry, provided access to the Site buildings. Photographs of the Site are included in Appendix G. No evidence of impoundments, pits, streams, ponds or other naturally occurring surface water was observed at the Site. No soil staining or distressed vegetation was observed at Site. No evidence of current chemical or petroleum storage was identified at the Site. The following sections detail RJR's observations.

### **6.1 Buildings, Utilities and Amenities**

The Site contains one vacant warehouse/garage, a vacant office building and three residences (Figure 2). All of the Site buildings are serviced by municipal water and sewer service, electricity, telephone and natural gas. An active water supply well is located in a well house that is connected to the northwest corner of the warehouse/garage.

### **6.2 Exterior Observations and Surface Conditions**

The eastern portion of the Site is occupied by vacant grass and dirt areas. The western portion of the Site is occupied by an asphalt parking lot. A concrete retaining wall extends southeastward from the warehouse/garage and runs along the southern property boundary to Marshall Street NE. The ground surface elevation to the south and east of the retaining wall is approximately 10 feet higher than the ground surface to the north and west of the wall. No impoundments, pits, wells, streams, ponds or other naturally occurring surface water were observed on the Site. No unusual odors were observed inside or outside any of the Site buildings. No soil staining or distressed vegetation was observed at Site. Some wood, concrete and scrap metal debris was observed near the southeast corner of the office building.

### **6.3 Chemical/Petroleum Storage**

No evidence of outdoor chemical or petroleum storage was observed at the Site. Staining on the concrete floor suggests that paint or other chemicals were previously stored inside warehouse building. Some areas of minor oil spillage and floor dry were observed in the warehouse. In general, the concrete floors in the warehouse were observed to be in good condition. No evidence of chemical storage and/or spillage was observed near any of the floor drains in the warehouse. No evidence of chemical storage and/or spillage was observed in the office building.

Steel pipes were observed protruding from the ground adjacent to the west of the 132 and 134 residences. These pipes could be associated with former or existing underground storage tanks. No other evidence of petroleum or chemical storage was observed near the residences.

#### **6.4 Waste Storage**

With the exception of some wood, concrete and scrap metal debris near the southeast corner of the office building and regular household trash behind the residences at the Site, no exterior storage of trash or other waste was observed during the Site visit.

#### **6.5 Asbestos-Containing Materials**

An asbestos survey performed in 1999 detected asbestos-containing pipe insulation in the basement of the office building. In addition, suspect insulation material was observed during the Site visit around a boiler in the basement of the warehouse building. It is possible that there are other materials in the existing Site buildings that could contain asbestos. Potential asbestos-containing materials (ACM) could potentially include, but are not limited to: insulation, floor tile, linoleum, mastic, ceiling tiles, textured ceilings, wallboard and taping compound, and exterior roofing materials. No sampling or analysis of suspect ACM was conducted by RJR.

#### **6.6 Lead-Based Paint**

Based on the date of construction for the existing buildings at the Site, it is possible that painted surfaces could contain lead-based paint. No lead-based paint testing was conducted by RJR in any of the Site buildings.

#### **6.7 Polychlorinated Biphenyls (PCBs)**

Electrical and hydraulic equipment manufactured prior to the 1980's may contain PCB dielectric fluids or oils. One pad-mounted electrical transformer was observed near the northwest corner of the existing Site warehouse. The transformer was labeled "Non-PCB". Many fluorescent light bulbs were observed inside the warehouse and office buildings at the Site. No spare light ballasts were observed. No other potentially PCB-containing equipment was identified during the Site visit.

#### **6.8 Surrounding Properties**

Observation of surrounding properties was made from the boundaries of the Site and from public streets during the Site reconnaissance on August 28, 2003. No outside storage of chemicals or petroleum products was observed on any of the adjacent properties.

The Site is bordered to the north by 13<sup>th</sup> Avenue NE, beyond which is P & N Auto Sales and Service (former Chose Service Station) and residences. The Site is bordered to the northeast by an apartment building. The Site is bordered to the east by Main Street NE, beyond which are residences. The Site is bordered to the south by the Northeast State Bank and parking lot, beyond which is Broadway Street NE. The Site is bordered to the west by Marshall Street NE, beyond which is the renovated Grain Belt Brewery.

## **7.0 Regulatory Review**

RJR reviewed regulatory agency information compiled from databases published by the U.S. Environmental Protection Agency (EPA) and the Minnesota Pollution Control Agency (MPCA) to identify RECs in connection with the Site.

Environmental Data Resources, Inc. (EDR) compiled the federal and state database information for review. The federal and state regulatory databases searched comply with those required by the ASTM standard. Unless stated otherwise in this section, the scope of the federal and state database review is limited to review of the information provided by EDR, and does not include review of regulatory agency files pertaining to specific sites that may have been identified.

EDR was unable to accurately locate 32 listings (orphan sites) due to poor or inadequate address information. Orphan listings determined by RJR to be within the ASTM-specified search radii are discussed under the appropriate database listing.

The results of the federal and state database review are discussed below in Sections 7.1 and 7.2. The locations of the facilities discussed in these sections are shown on the figures in the EDR report, included in Appendix H. The results of the City of Minneapolis Fire Department records review for the Site is discussed in Section 7.3.

Based on the regulatory review, none of the off-Site facilities and/or releases are expected to result in subsurface impacts at the Site.

### **7.1 U.S. EPA Database Information**

#### **NPL Site List (radius – 1.0 mile)**

The National Priorities List (NPL) database includes uncontrolled or abandoned hazardous waste sites identified for priority remedial action under the Superfund Program. The NPL is a subset of CERCLIS. No NPL facilities were identified within a one-mile radius of the Site.

#### **RCRA TSD and CORRACTS Lists (radii – 0.5 mile and 1.0 mile, respectively)**

RCRA TSD facilities are licensed to transport, store, treat, and/or dispose of hazardous waste. CORRACTS identifies hazardous waste handlers with RCRA corrective action activity. No RCRA TSD sites were identified within a ½ mile radius of the Site; five CORRACTS sites were identified within a one-mile radius of the Site. Three of these facilities are located across the Mississippi River to the west of the Site, and are not expected to impact the Site. The other two facilities are located at least ¾ mile away from the Site; based on their distances, these facilities are not expected to impact the Site.

#### **CERCLIS/NFRAP List (radius – 0.5 mile)**

The CERCLIS list is a compilation of the sites that the Environmental Protection Agency (EPA) has investigated, or is currently investigating, for a release or threatened release of hazardous substances pursuant to the Comprehensive Response, Compensation and Liability

Act (CERCLA), or Superfund Act of 1980. This database also identifies those sites designated No Further Remedial Action Planned (NFRAP) under CERCLIS. No CERCLIS facilities were identified within a ½ mile radius of the Site.

#### **RCRA LQG/SQG List (radius - adjacent properties)**

Facilities listed in this RCRA database are licensed hazardous waste generators. As registered RCRA generators, these sites are required to report the amounts and types of hazardous waste generated on site, and its final disposition. The facilities are subdivided into large quantity generators (LQG), generally facilities that generate more than 1,000 kilograms of hazardous waste per month, and small quantity generators (SQG), generally facilities that generate between 100 and 1,000 kilograms of hazardous waste per month. Two LQG listings and twenty-four SQG listings were identified within ¼ mile of the Site. None of the LQG listings were identified on adjacent properties. Three of the SQG listings are either located on-Site or on adjacent properties, and are summarized below.

- Range Management Services, Inc. (MCDA Property), 1221 Marshall Street NE. This listing corresponds to the on-Site warehouse, which is currently vacant. No oil recycling or violations were documented at this facility in the EDR report.
- Chose Service Station (P & N Auto Service), 1301 Marshall Street NE. This facility is located adjacent to the north-northwest of the Site, across Marshall Street and 13<sup>th</sup> Avenue. This facility is also listed in the FINDS, UST/AST and LUST directories. No oil recycling or violations were documented at this facility in the EDR report. The EDR report indicates that this facility previously contained three gasoline USTs and one diesel UST, and currently contains two 145-gallon waste oil/used oil ASTs. A petroleum release (#6688) was reported at this facility in 1993; the MPCA closed the leak file in 1995. Based on its status, this facility is not expected to impact the Site.
- Grain Belt Brewery Project, 1200 Marshall Street NE. This property is located adjacent to the southwest of the Site. No oil recycling or violations were documented at this facility in the EDR report. Based on its direction from the Site, this facility is not expected to impact the Site.

#### **ERNS (radius – subject property only)**

The Emergency Response Notification System (ERNS) database lists releases of oil and/or hazardous substances that have been reported to federal authorities. No ERNS releases were identified at the Site.

### **7.2 Minnesota Pollution Control Agency Database Information**

#### **PLP Database (radius – 1.0 mile)**

The Minnesota hazardous waste sites (HWS) list is known as the Permanent List of Priorities (PLP). The PLP is the state equivalent of the NPL list, and includes identified hazardous waste sites where investigation and cleanup are needed, activities leading to cleanup are

underway, or cleanup actions have been completed and long term monitoring or maintenance continues. One PLP site (Shafer Metal Recycling) was identified within a one-mile radius of the Site. This facility is located across the Mississippi River to the southwest of the Site, and is not expected to impact the Site.

#### **VIC Sites (radius – 0.5 mile)**

The Voluntary Investigation and Cleanup (VIC) Program database identifies sites where investigation and cleanup activities are completed through voluntary actions under the review of the MPCA. Seventeen VIC sites were identified within a ½ mile of the Site. None of VIC sites greater than ¼ mile represent a significant concern to the Site. Seven of the VIC sites are located within ¼ mile of the Site. Four of these sites are located downgradient or cross-gradient from the Site, and do not represent a significant concern. Three VIC sites within ¼ mile are located upgradient or on adjacent properties; these facilities are summarized below.

- Minnegasco Meter Sites #2 - Grain Belt, 1220 Marshall Street NE. This property is located adjacent to the southwest of the Site. This property was enrolled in the VIC Program in July 2000. The EDR report indicates that 39 cubic yards of mercury-contaminated soil was remediated from a meter house at this property in October 2000. This facility is not listed as active in the EDR report. Based on this, this facility does not represent a significant concern to the Site.
- Grain Belt Brewery #3, 1210 Marshall Street NE. This facility is located adjacent to the southwest of the Site. This property was enrolled in the VIC Program in June 2002. No other pertinent information was identified in the EDR report. Based on its direction from the Site, this facility is not expected to impact the Site.
- 1300 2<sup>nd</sup> Street NE Properties, 1300-1304 2<sup>nd</sup> Street NE. This property is located within ¼ mile to the northeast of the Site. This facility entered the VIC Program in June 2002. Approval for an additional investigation at this facility was documented in the EDR report. However, no cleanup was documented in the EDR report. Based on its distance from the Site, this facility does not represent a significant concern to the Site.

#### **Leaking UST Sites (radius – 0.5 mile)**

The Leaking UST listing contains UST leak sites that have been reported to the MPCA. Twenty-five leak sites were identified within a ½-mile radius of the Site; one of them was assigned the Site property address.

- Grain Belt Facility, 1215 Marshall Street NE. This facility is also listed in the UST/AST database. The EDR report indicates that this facility previously contained three 30,000-gallon fuel oil USTs. The USTs were removed in January 1991. A petroleum release was reported to the MPCA in January 1991; the leak file was closed in September 1991. According to MPCA leak file information, the former fuel oil tanks were located beyond the retaining wall to the south of the existing office building. Following the tank removals, approximately 3,000 cubic yards of

impacted soil was removed from the excavation and disposed of off-Site. Analytical results indicated that some residual contamination remained in place along the south side of the retaining wall.

Fourteen of the other leaksites are located more than ¼ mile from the Site and are not expected to impact the Site. All but one of the ten leaksites within ¼ mile of the Site in the regulatory database have been designated closed by the MPCA. A closure status means that the release has been investigated and remediated, if required, to the satisfaction of the MPCA. It is possible that soil and/or ground water contamination may still be present at these facilities. Based on their closure status, the leaking UST facilities determined to be off-Site do not represent a recognized environmental condition to the Site. The remaining open leaksite is summarized below.

- Former Eddie's Truck Repair, 1428 Marshall Street NE. This property is located to the northwest (cross-gradient) of the Site. A petroleum release (#15169) was reported at this facility in March 2003; the leak file remains open. Based on its direction from the Site, the release at this facility is not expected to impact the Site.

#### **Solid Waste Facilities (SWF) (radius – 0.5 mile)**

The Solid Waste Disposal Facilities database is an inventory of all active and inactive permitted solid waste landfills and processing facilities. One SWF facility (Broadway Resource Recovery LLC) was identified within ½ mile of the Site. This facility is located across the Mississippi River to the west of the Site, and is not expected to impact the Site.

#### **Registered UST/AST Sites (radius – adjacent properties)**

The Registered UST/AST listings contain underground storage tanks (USTs) and above ground storage tanks (ASTs) registered with the MPCA. Because of the former fuel oil USTs, the Site is listed in this database. Two additional UST/AST listings are located on adjacent properties, and are summarized below.

- Northeast State Bank, 77 Broadway Street NE. This facility is located adjacent to the south of the Site. The EDR report indicates that a 2,000-gallon fuel oil UST was removed from this property in 1992. No leaks or spills were documented at this facility in the EDR report. Based on this, this facility is not expected to impact the Site.
- Chose Service Station (P & N Auto Service), 1301 Marshall Street NE. This facility is located adjacent to the north-northwest of the Site, across Marshall Street and 13<sup>th</sup> Avenue. The EDR report indicates that this facility previously contained three gasoline USTs and one diesel UST, and currently contains two 145-gallon waste oil/used oil ASTs. A petroleum release (#6688) was reported at this facility in 1993; the MPCA closed the leak file in 1995. Based on its status, this facility is not expected to impact the Site.



### **Spill List (radius – Site and adjacent properties)**

The Spill List contains spill information reported to the MPCA. No reported spills were identified for the Site.

### **7.3 City of Minneapolis Fire Prevention Office Information**

A request for an environmental search was submitted to the City of Minneapolis Fire Prevention Office by HIG. The Fire Prevention Office typically keeps records on file for public and private gas stations, L. P. installations, bulk plants, dry cleaning plants, closed gasoline stations, tank installation and fire safety inspections.

Fire prevention office records indicate that three underground storage tanks were installed at 1215 Marshall Street NE in 1946. The tanks each measured 11 feet in diameter by 44 feet long (33,000 gallons), and were used to store fuel oil. The fuel oil tanks were located to the south of the office building. Additional information regarding these tanks is discussed in Section 7.2 (Leaking UST Sites) of this report.

Fire department records also indicate that two 4,000-gallon gasoline tanks were removed from the 1215 Marshall Street NE property in April 1984. The locations of these tanks were not documented in the file. Hennepin County Department of Environmental Services has also compiled a database of tanks from Fire Department records. Hennepin County representative, Ms. Shirley Smith, stated in a phone conversation that their database indicated that one gasoline tank (550-gallon) was removed from the property in April 1984. No other information pertaining to the gasoline tank(s) has been identified.

## 8.0 Conclusions

R.J.Rykken Consulting, Inc. has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527-00 of Phase I of the Grain Belt Area Development located on the southeast corner of 13<sup>th</sup> Avenue NE and Marshall Street NE. Any exceptions to, or deletions from, this practice are described in Section 2.0 of this report. Based on the research conducted for this Phase I EA, the following recognized environmental conditions (RECs) were identified at the Site:

- Fire department records indicate that two 4,000-gallon gasoline USTs, and possibly one 550-gallon gasoline UST were removed from the Site (1215 Marshall Street NE) in 1984. The location of these tanks could not be determined from the records. The City of Minneapolis Inspection records indicate that building permits for oil burners (1947 and 1976) and a stoker (1936) were previously issued for 1215 and 1221 Marshall Street NE. During the Site visit, possible vent pipes were observed adjacent to the residences located at 132 and 134 13<sup>th</sup> Avenue NE. These pipes could be associated with former or existing fuel tanks. It is possible that fuel storage tanks at the Site could have resulted in subsurface contamination beneath the Site.

Issues noted for the Site that are not RECs as defined by the ASTM standard are as follows:

- A petroleum release (#3719) was reported at the Site (1215 Marshall Street NE) in January 1991. The release was discovered during the removal of three 30,000-gallon fuel oil USTs. The tanks were installed at the Site in 1947, and were located along the southern property boundary, south of the existing office building. The MCDA conducted soil and ground water corrective actions, and the MPCA closed the file in September 1991. This release is considered a historical recognized environmental condition (HREC).
- A petroleum release (#6688) was reported at the former Chose Service Station (currently P & N Auto Sales and Service) in 1993. This facility is located northwest of the Site, across 13<sup>th</sup> Avenue NE. The MPCA closed the leak file in 1995.
- According to an archeological investigation at the Site, subsurface remnants of the original Orth's Brewery are still present beneath the western portion of the Site. The remnants include limestone footings, walls and sub-floors, as well as glass, brick, wood and mortar debris. In addition, several residences previously occupied the eastern portion of the Site. It is possible that concrete foundations and/or other building materials may be present in these areas.
- An asbestos survey conducted in 1999, detected asbestos-containing insulation in the basement of the existing office building. The survey did not assess the asbestos content of materials in other portions of the building. Suspect ACM (insulation near a boiler) was also observed in the basement of the existing warehouse/garage during the Site visit.

- Based on the date of construction, painted surfaces of the existing Site buildings could potentially contain lead. No lead based paint testing was conducted by RJR.
- An industrial water supply well (MDH Unique #20067) is located in an enclosure attached to the northwest corner of the warehouse/garage at the Site. The well was drilled in 1938 to a total depth of 700 feet. The 14-inch diameter well is cased to a depth of 168 feet, and utilizes water from multiple bedrock aquifers.

## 9.0 Recommendations

Based on the conclusion of this Phase I EA report, RJR recommends the following:

- A subsurface investigation would be required if it were necessary to assess whether soil or ground water beneath the Site had been impacted from past Site uses and whether corrective actions would be necessary during development. A subsurface investigation at the Site should assess potential subsurface contamination from former fuel tanks and potential demolition and foundation debris from the former structures.
- Additional sampling would be required to further assess the asbestos content of building materials at the Site. The asbestos content of suspect ACMs that were not previously sampled should be confirmed or denied by laboratory analysis prior to renovation, remodeling or demolition activities in accordance with regulatory requirements. This work reportedly will be performed by the MCDA prior to the demolition of the warehouse and residential buildings. Depending upon its condition, ACM within the Office Building can be managed in place with an Operations and Maintenance (O & M) Plan. If removal of ACM is necessary, it should be performed by a licensed abatement contractor in accordance with state and federal regulations, prior to future renovation and/or demolition of the Site buildings.
- The lead content of painted surfaces in the Site buildings should be assessed prior to renovation or demolition activities, in accordance with regulatory requirements. This work reportedly will be performed by the MCDA prior to the demolition of the warehouse and residential buildings.
- If the proposed Site development does not incorporate the use of the existing water supply well (MDH Unique #20067), it should be abandoned by a licensed well driller, in accordance with MDH guidelines.

## **10.0 Preparer's Qualifications and Signatures**

This Phase I Environmental Site Assessment was completed by R.J.Rykken Consulting, Inc. Qualifications of the preparers are included in Appendix I.

### **PREPARED BY:**

Mark A. Perry  
Environmental Geologist

Robert J. Rykken, P.E., P.G.  
Principal Engineer/Geologist

## **11.0 References**

### **Geologic Information**

- Minneapolis South Quadrangle, 7.5 Minute Series Topographic Map, 1967, revised 1993, United States Geological Survey.
- Geologic Atlas of Hennepin County, Minnesota, 1989, County Atlas Series, Atlas C-4, Minnesota Geological Survey.
- Physical Setting Source Well Records provided by Environmental Data Resources, Inc. (EDR).

Note: The Geologic Atlas of Hennepin County, Minnesota, 1989, County Atlas Series, Atlas C-4 was reviewed for content pertinent to this Phase I EA; however, it was not duplicated and included in this report. If necessary, the Geologic Atlas of Hennepin County can be reviewed at the Minnesota Geological Survey office in St. Paul, Minnesota. All of the other reviewed reference materials are documented in this report.

### **Historical Information**

Regulatory information, historical maps, aerial photographs and city directories were provided by EDR.

#### *Federal and State Regulatory Information*

- EDR Radius Map with Geocheck (federal and state regulatory database report); EDR report ID: 1038754.3s dated August 29, 2003.

#### *Maps and Atlases*

- Sanborn Fire Insurance Company maps dated 1885, 1890, 1912, 1950, 1952 and 1966.

#### *Aerial Photographs*

- Aerial photographs dated 1937, 1945, 1957, 1966, 1978, 1987 and 1997.

#### *City Directories*

- R.L. Polk and Co. and Coles City Directories dated 1944, 1948, 1953, 1958, 1963, 1968, 1973, 1978, 1983, 1988, 1993 and 1999.

## FIGURES

# APPENDIX A

## Plat Map



## APPENDIX B

### Phase I Questionnaires

# APPENDIX C

## Historical Maps

## APPENDIX D

### Aerial Photographs

# APPENDIX E

## City Directories

## **APPENDIX F**

### **City of Minneapolis File Information**

## **APPENDIX G**

### **Site Reconnaissance Photographs**

## **APPENDIX H**

### **EDR Federal and State Database Report & Minnesota Pollution Control Agency (MPCA) Leak File Information**

# APPENDIX I

## Resumes